

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
29 September 2005 (29.09.2005)

PCT

(10) International Publication Number  
**WO 2005/090462 A1**

(51) International Patent Classification<sup>7</sup>: **C08L 3/02**,  
C08J 5/18

Zeist (NL). **THIEWES, Harm, Jan** [NL/NL]; Nico Bergsteijnweg 147, NL-3931 CC Woudenberg (NL).

(21) International Application Number:  
PCT/NL2005/000222

(74) Agent: **WINCKELS, J.H.F.**; Johan de Wittlaan 7, NL-2517 JR Den Haag (NL).

(22) International Filing Date: 24 March 2005 (24.03.2005)

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English  
(26) Publication Language: English  
(30) Priority Data:  
04075924.3 24 March 2004 (24.03.2004) EP

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (for all designated States except US): **NEDERLANDSE ORGANISATIE VOOR TOEGEPAST-NATUURWETENSCHAPPELIJK ONDERZOEK TNO** [NL/NL]; Schoemakerstraat 97, NL-2628 VK Delft (NL).

**Published:**

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



**WO 2005/090462 A1**

(54) Title: PROCESS DOR GELATINISING STARCH USING A BIODEGRADABLE POLYMER MATERIAL BEARING ALDEHYDE GROUPS

(57) **Abstract:** The invention provides a process wherein starch and/or a starch derivative can be gelatinised more efficiently by means a thermo mechanical treatment, when a carbohydrate polymer is used comprising aldehyde containing monomer units which comprise one or more aldehyde groups that are derived from one or more a primary alcohol groups. With this process a granulate or other semi-finished product can be obtained that can be shaped to produce an article that has excellent dimensional stability in water. The invention further provides a granulate, a shaped starch product, a food product or a blown starch film comprising such a carbohydrate polymer.